

ABSTRACT

METHOD AND APPARATUS FOR CONTROLLED CONTRACTION OF COLLAGEN TISSUE

5 A method and apparatus for tightening a surface of a skin with an
underlying collagen containing tissue applies radiant energy through the skin
to underlying collagen tissue without substantially modifying melanocytes
and other epithelial cells in the epidermis. A porous membrane is adapted to
receive an electrolytic solution and become inflated to substantially conform
a contacting exterior surface of the membrane to a skin layer. The
10 membrane includes a cooling lumen for receiving cooling fluid. One or more
thermal electrodes positioned in the membrane and transfers thermal energy
to the electrolytic solution. The electrolytic solution and cooling fluid
creates a reverse thermal gradient from the skin surface to the underlying
collagen tissue. A thermal power source is coupled to the thermal
electrodes, and a source of electrolytic solution is coupled to the membrane.